

Table N.11 Alternative 1 - 2.0 MGD Tertiary at SC WWTF; 1.3 MGD AWPf at West Annex/Chanticleer Regional Recycled Water Feasibility Study Soquel Creek Water District						
Classification	Quantity	Units	Unit Cost	Total Cost	Soquel Cost	City of Santa Cruz Cost
Treatment Cost Estimate						
<i>At Santa Cruz</i>						
Building for Treatment ¹	6,000	SF	\$300	\$1,800,000	\$1,530,000	\$270,000
Cost for Piles	6,000	SF	\$184	\$1,103,000	\$937,550	\$165,450
Secondary Effluent Lift Station	1	LS	\$27,000	\$27,000	\$22,950	\$4,050
UF Equalization Basin ³	83,000	Gallon	\$2	\$179,000	\$152,150	\$26,850
UF Equipment ²	2.0	MGD	\$1,079,068	\$2,158,000	\$1,834,300	\$323,700
Title 22 UV Equipment	0.3	MGD	\$450,000	\$135,000		\$135,000
Chemical Storage/Feed System	1	LS	\$323,720	\$324,000	\$275,400	\$48,600
Yard Piping (15%)	15	%		\$423,000	\$359,550	\$63,450
Electrical, Instrumentation & Controls (25%)	25	%		\$706,000	\$600,100	\$105,900
Site Work (10%)	10	%		\$282,000	\$239,700	\$42,300
Estimated cost of Building Demolition + Reconstruction	1	LS	\$100,000	\$100,000	\$85,000	\$15,000
<i>At West Annex</i>						
Process Building ¹	2400	SF	\$300	\$720,000	\$720,000	
RO Equalization Basin ³	60,000	Gallon	\$2	\$129,000	\$129,000	
RO Equipment ⁴	1.3	MGD	\$1,348,835	\$1,753,000	\$1,753,000	
Chemical Storage/Feed System	1	LS	\$755,347	\$755,000	\$755,000	
UV AOP	1.0	LS	\$854,050	\$854,000	\$854,000	
Yard Piping (15%)	15	%		\$524,000	\$524,000	
Electrical, Instrumentation & Controls ⁴ (25%)	25	%		\$873,000	\$873,000	
Site Work ⁶ (5%)	5	%		\$175,000	\$175,000	
Total Direct Cost				\$13,020,000	\$11,819,700	\$1,200,300
Contingency (30%)	30	%		\$3,910,000	\$3,546,000	\$360,000
Subtotal				\$16,930,000	\$15,365,700	\$1,560,300
General Conditions (15%)	15	%		\$2,540,000	\$2,305,000	\$234,000
Subtotal				\$19,470,000	\$17,671,000	\$1,799,000
Contractor Overhead & Profit (12%)	12	%		\$2,340,000	\$2,121,000	\$219,000
Subtotal				\$21,810,000	\$19,792,000	\$2,009,000
Sales Tax (8.25%) on 50% of Direct Costs Plus Contingency	8.25	%		\$700,000	\$634,000	\$64,000
TOTAL TREATMENT CONSTRUCTION COSTS				\$22,510,000	\$20,430,000	\$2,080,000
Infrastructure Cost Estimate						
<i>Pump Stations</i>						
SC WWTF to West Annex	120	HP	\$8,600	\$1,032,000	\$1,032,000	
West Annex to Wells - Purified Water	50	HP	\$11,400	\$570,000	\$570,000	
<i>Pipelines</i>						
SC WWTF to West Annex - 16"	34,000	LF	\$300	\$10,210,000	\$8,812,000	\$1,398,000
West Annex to SC WWTF Outfall - Concentrate	34,100	LF	\$55	\$1,876,000	\$1,535,000	\$341,000
Purified Water West Annex to Wells - 14"	10,800	LF	\$280	\$3,021,000	\$2,598,000	\$423,000
River & Highway Crossings	1	LS	\$3,310,000	\$3,310,000	\$3,310,000	
<i>Well Costs</i>						
Injection Well	2	EA	\$1,250,000	\$2,500,000	\$2,500,000	
Monitoring Well	4	EA	\$100,000	\$400,000	\$400,000	
Customer Connections	2	EA	\$5,000	\$10,000	\$10,000	
Total Direct Cost				\$22,930,000	\$20,767,000	\$2,162,000
Contingency	30	%		\$6,880,000	\$6,230,000	\$649,000
TOTAL INFRASTRUCTURE CONSTRUCTION COSTS				\$29,810,000	\$27,000,000	\$2,820,000
Infrastructure and Treatment Construction Costs				\$52,320,000	\$47,430,000	\$4,900,000
Engineering and Contract Administration (30%)				\$15,700,000	\$14,229,000	\$1,470,000
Well Land Acquisition				\$384,000	\$384,000	
TOTAL PROJECT COST				\$68,404,000	\$62,043,000	\$6,370,000
Annualized Project Cost				\$2,971,000	\$2,695,000	\$277,000
Annual O&M Costs						
Treatment				\$1,781,000	\$1,729,000	\$52,000
Infrastructure				\$247,000	\$234,650	\$12,350
Total				\$2,028,000	\$1,963,650	\$64,350
Total Annual Cost				\$4,999,000	\$4,658,650	\$341,350
Annual Production (Tertiary and Purified Water, AFY)				1,840	1,500	340
Unit Cost (\$/AF)⁷				\$2,717	\$3,106	\$1,004
Notes:						
(1) Includes general building HVAC (for admin only), plumbing, and electrical. CMU building. Unit price based on usable square footage						
(2) UF sized for additional 300,000 gpd needed for on-site uses at SC WWTF, and potential additional recycled water uses including irrigation of nearby park and a truck-fill station. Includes membrane skids, piping, membranes, CIP system, and on-skid instrumentation & control.						
(3) Flow equalization is required before the MF and again before the RO system. 60 minutes of storage is assumed.						
(4) Includes membrane skids, piping, RO pressure vessels, membranes, CIP system, cartridge filters and on-skid instrumentation & control.						
(5) Does not include stand-by power or off-site power improvements.						
(6) Includes demolition, excavation, paving, sidewalks, landscaping, and general site improvements.						
(7) Unit costs represent the cost for the total amount produced 1) for the entire project, 2) for SqCWD only, and 3) for Santa Cruz only. These waters are different qualities but are still considered to be potable water offsets.						
(8) ENR Construction Cost Index (San Francisco, August 2017): 12037						
(9) This is a class 4 Budget Estimate as defined by the AACEI's Revised Classification (1999) with an expected accuracy range of + 30 percent or - 15 percent. This cost estimate is based upon the Engineer's perception of current conditions in the project area and is subject to change as variances in the cost of labor, materials, equipment, services provided by others or economic conditions occur. Since the Engineer has no control over these factors, he cannot warrant or guarantee that actual bids will not vary from the costs presented herein. This estimate does, however, reflect the Engineer's professional opinion of accurate costs at this time.						

